THE INFLUENCE OF THE WABASH AND ERIE CANAL ON THE DEVELOPMENT OF TWO NORTHERN INDIANA COMMUNITIES 1830-1860

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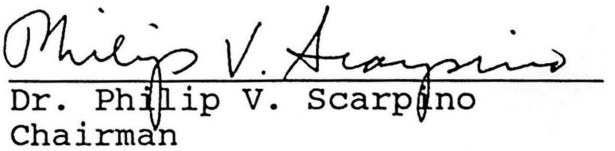

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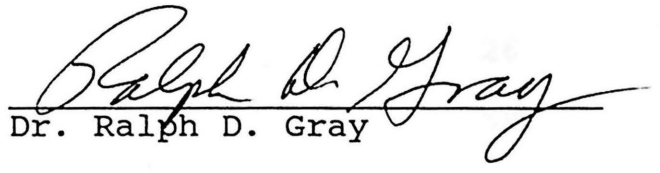

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PREFACE

I became interested in the Wabash and Erie Canal as the subject for my thesis while researching and writing an historic context on the canal system in Indiana, 1800-1875, for the Indiana Division of Historic Preservation and Archaeology (DHPA). Historic contexts, which are a key component of the DHPA's historic preservation planning program, are organized according to theme, place, and time. Contexts provide the framework for assessing the significance of historic properties, and in some cases, assessing the integrity of the resource. My context, which focused on canals and their importance in the settlement of the state, addressed canal structures and the economic and political impact of the canal-building program. To a limited extent, the context also examined why the canal system in Indiana never lived up to expectations. The context, titled *Canals and Related Resources 1800-1875*, is available at the Division of Historic Preservation and Archeology, Department of Natural Resources, 402 West Washington Street, Indianapolis, Indiana, 46202.

This thesis identifies positive benefits derived from the construction and operation of the Wabash and Erie Canal, and examines their influence on the development of two northern Indiana communities. I chose Peru (Miami County) and Logansport (Cass County) for the focus of my thesis because Peru owed its existence to the Wabash and Erie Canal, while Logansport had other positive attributes that may have

fostered development without the influence of the canal.

I wish to acknowledge the assistance and support given to me by Dr. Scott J. Seregny, Dr. Ralph D. Gray, and especially by Dr. Philip V. Scarpino during the preparation of this thesis. Without their unflagging patience and supportive editorial comments this work might never have been completed.

Chapter 1

Introduction

Information I discovered during research for my historic context raised doubts concerning opinions of the general public and some historians in the late nineteenth century that the canal system in Indiana was an utter failure. My research informed me that canals in the Midwest spurred settlement, increased the rate of economic growth, and created a healthy climate for growth in the commercial and agricultural sectors of the region's economy. Some of this disparity in opinions appears to be a matter of historical perspective. Late nineteenth-century historians deemed the Wabash and Erie Canal a failure because of the financial chaos that remained in the wake of the canal-building frenzy. The evidence available to these historians supported contemporary opinions that the Wabash and Erie Canal never lived up to expectations; therefore, the canal was a total failure.

Twentieth-century historians, who are farther removed from the passion and immediacy of those times, are more likely to consider a range of variables such as long-term benefits, the value of canal-associated economic and industrial development, and the introduction of Indiana's production into national markets in their judgements of the canal-building era.[1]

One example of this broader approach to understanding is offered by H. Jerome Cranmer, a noted economic historian.

Cranmer, places canals in a descriptive context by categorizing them as either "exploitative" or "developmental"; the first being built to take advantage of opportunities offered by established markets and well-developed economies. The second type was built as a developmental tool that created its own markets and population centers. The Wabash and Erie Canal fits Cranmer's description of a developmental canal.[2]

Before going any further with the story of Indiana and its experiences during the canal-building era, a broader understanding of national issues concerning internal improvements is in order. The need for internal improvements (infrastructure development and expansion) was recognized by some members of the federal government early in the nineteenth century. Albert Gallatin, Secretary of the Treasury, published a report in 1808 that evaluated the condition of the United States infrastructure and fostered the idea that the federal government had an active responsibility in this matter for the "common good." This responsibility became more evident in the aftermath of the War of 1812.[3]

Difficulties in moving material and supplies during the War of 1812 reenforced the need for a more efficient transportation infrastructure. Military considerations aside, enthusiasm for improved routes of land transportation was also apparent in the commercial and agricultural sectors of the emerging economy. As historian George R. Taylor points out in *The Transportation Revolution, 1815-1860*, farmers needed to

move "war-accumulated surpluses to the seaports and merchants and manufacturers to sell their products in the interior." Although Taylor is discussing roads in particular, he goes on to say, "the stage seemed to be set for the financing by the national government . . . of internal improvements including both roads and canals."[4] An improved infrastructure would benefit defense readiness, commercial, and manufacturing interests along the eastern seaboard, as well as agricultural interests. For individuals or groups intent on pushing the American frontier westward, improved infrastructure would provide the means to their ends.

In 1812, the cost of infrastructure programs was almost prohibitive to, and far exceeded the financial capability of, most states. In states west of the Allegheny and Appalachian Mountains, the lack of population and the absence of markets made achievement of this capability even more remote. In answer to some of Gallatin's earlier recommendations, President Madison in 1815 urged "the great importance of establishing . . . roads and canals . . . under national authority." However, Madison's last official act in 1817 was to veto the Bonus Bill, legislation that would have pledged funds arising from chartering the second National Bank of the United States to support internal improvements.[5]

Seeing the handwriting on the wall, the State of New York decided to finance its own canal independent of any federal support. The Erie Canal, connecting the Hudson River at Albany

with Buffalo on Lake Erie, was financed by the state and constructed under the direction of DeWitt Clinton. Later elected as the governor of the state, Clinton began his involvement with the Erie Canal as a Canal Commissioner for the State of New York. Started in 1817 and finished in 1825 at a cost of $7 million, the Erie Canal was taking in $700,000 in tolls by 1826 and $1 million annually soon thereafter. This immediate monetary benefit to New York was not lost on states like Pennsylvania, Ohio, Indiana, and Illinois. Long-term benefits from the Erie Canal were access to growing communities in the Midwest and the creation of markets for eastern manufactured goods.[6] Successful completion of the Erie Canal by the State of New York, without federal assistance, had two immediate effects on other states: 1) It implied that states could undertake their own internal improvement programs and expect success; and 2) it created a "keep up with the Joneses" attitude that led several states to overextend their financial means by supporting such an enterprise.

Just "keeping up" with another state was not sufficient cause for states to assume the massive debt (massive in contemporary terms) that was required to initiate and complete their canal-building programs. Hard evidence was available to support arguments in favor of this type of internal improvement. In *A Shopkeeper's Millennium*, a study of Rochester, New York, in the early nineteenth century, historian Paul E. Johnson addresses the immediate influence of

the Erie Canal on agricultural and economic development of this community and surrounding hinterlands. Access to larger markets along the eastern seaboard, through the Erie Canal, influenced local farmers to increase their production. Surplus production was sold or traded for consumer goods. Demands for consumer goods created wholesale and retail opportunities for merchants. According to Johnson, surplus production caused the "Genesee Valley to become one of the great grain-growing regions of the world."[7]

Increased grain production was just one result of the Erie Canal's presence in Rochester, New York. Mills sprouted up to grind the increasing amounts of grain; in 1827, these mills accounted for 55 percent of Rochester's investment in manufactures. In 1818, Rochester sent 26,000 barrels of flour to New York City and was considered by the local millers as a good pre-canal year. By the late 1830s, Rochester was shipping 500,000 barrels a year. During the same period the population of Rochester increased from a few hundred to 20,000 persons. As a result of canal-influenced growth, per capita income increased. By the late 1820s, merchants began to import silks and fine wines for their customers.[8] In truth, the number of customers who could afford great luxury was limited, but the demand for luxury consumer goods was the pinnacle of a much broader, all-inclusive base of demand for everyday items from a rapidly expanding regional population.

Although slow in arriving, federal assistance provided for internal improvements in many states came in one of two forms: land grants or subscription to state-issued bonds. Indiana and Ohio were both recipients of land grants designed to support the building of canals. Pennsylvania received a promise from federal authority that the government would buy nearly $2.5 million worth of bonds underwritten by the state and intended to finance their canal-building program. In fact, by 1860 the federal government had granted 4 million acres of land and subscribed to over $3 million worth of stocks or bonds to support state efforts in canal-building.[9]

From a historical perspective the reasons for the eventual failure of canals are relatively simple to understand. Engineering estimates were, without fail, far below actual construction costs. With the exception of the Erie Canal, revenues from operations never reached their expected levels. Finally, poor business management or outright chicanery on the part of managers added insult to injury.[10]

If practical stumbling blocks were not enough to stymie success, the addition of local politics to the fray guaranteed failure. Retrospective analysis does not begin to take into account the local pressures within states to move aggressively forward on internal improvements or the internecine politics that required every constituency to get a "piece of the pie." For local boosters and state legislatures in the Midwestern states, canals seemed to be one answer to the transportation

needs for their state and for a young United States seeking to expand into the trans-Allegheny lands that comprised the Old Northwest. Roads, turnpikes, and river transportation were partial answers to the same problem. But, prior to the railroads, canals offered the better alternative for moving bulk shipments at low cost. Before federal authority accepted its role in supporting internal improvements, the where, when, how, and who that would build these canals posed a perplexing problem.

Chapter 2

The Dilemma

Enthusiasm for federal involvement in internal improvements, while shared by those responsible for national defense and by entrepreneurs in search of larger markets for their enterprises, was not shared at all levels of government or for that matter, within the federal government. Arguments against federal involvement ensued at state level; opponents challenged the power of the federal government and the scope of its authority in matters, such as infrastructure improvements and internal tariffs, which they construed as state issues. Many in the states feared potential federal involvement in their internal affairs.

Why canals and why not roads or railroads or even steamboats? These very same questions were argued repeatedly in state legislatures throughout Ohio, Indiana, and Illinois. In the early nineteenth century, roads in all states were difficult to build, hard to maintain, extremely uncomfortable to ride on, and very costly to shippers. For example, one individual traveling overland in the 1830s reported, "two days and two nights with my body exposed to the thumps on the horrid road . . . broken down twice and three times used fence rails to get stage out of mud . . . my body was a perfect jelly." Plank roads, built with little thought to engineering requirements and with unseasoned lumber, deteriorated rapidly.

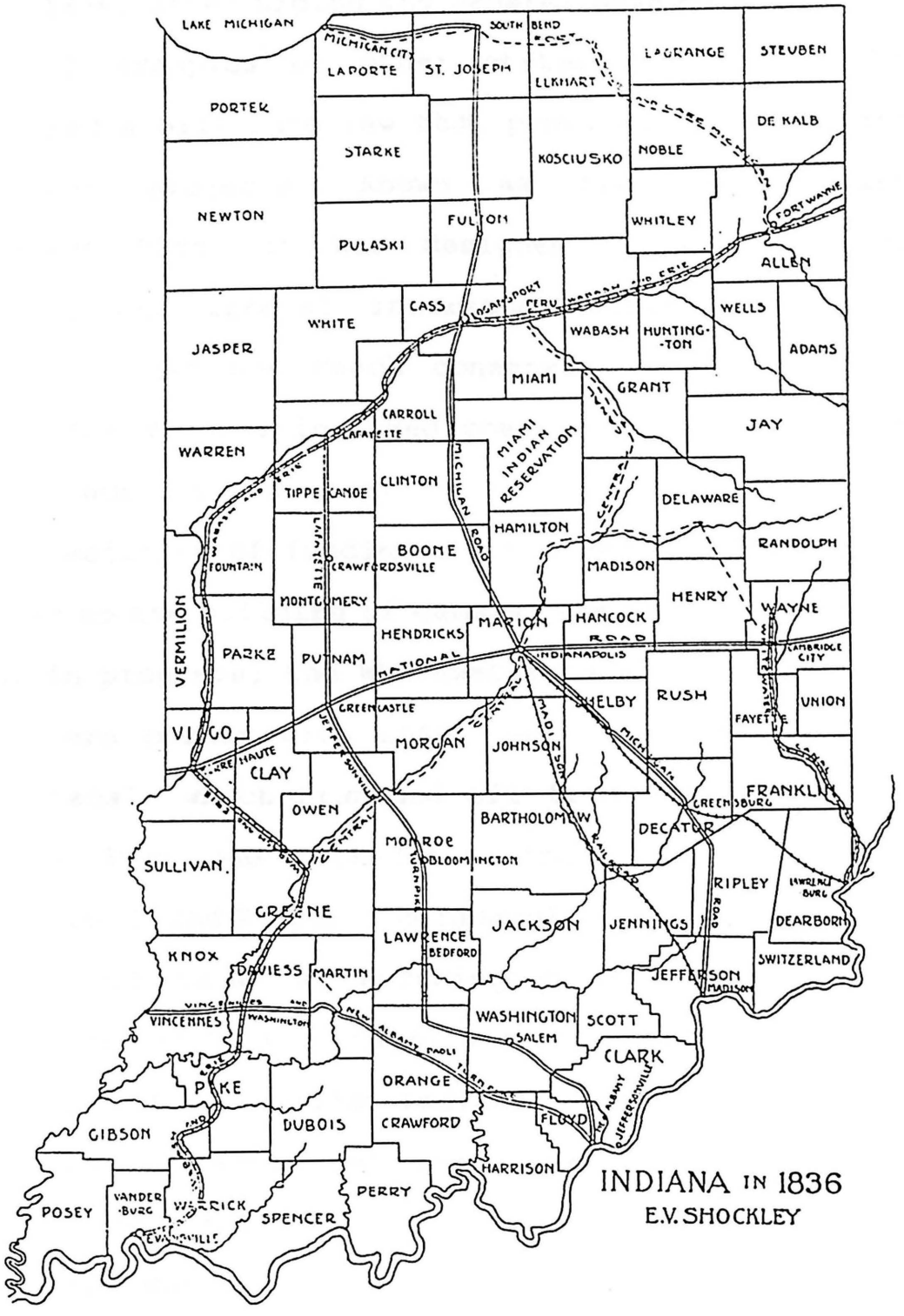
Corduroy roads, constructed of logs laid perpendicular to the direction of travel, were not much better.[1] River boats were more comfortable but river boats plying the Wabash River, from its confluence with the Ohio River north to Lafayette, were subjected to conditions of low water, spring freshets, or winter ice that made their reliability questionable for much of the year. Their rates of toll were not much less than those of wagons.[2]

One portion of the federal solution for supporting internal improvements was land grants to states. Indiana was the first to accept one of these land grants in 1827. This acceptance was the driving force behind a frenzied period of canal-building in Indiana in the second quarter of the nineteenth century.[3]

Why was a large federally-supported program of railroad-building not considered a viable option at this time? In the 1820s, while state legislators in Indiana argued over transportation options, the per mile cost of constructing a railroad was higher than that for canals. The nation possessed limited capability to mass produce rails and rolling stock. The Midwest did not have established markets needed to justify the costs of railroads; the capital required to build railroads was not present; and railroads did not have the record of success compiled by the Erie Canal in the United States and generally canals in England.[4] Indiana's General Assembly, in 1827, was faced with making a decision on which

means of transportation to develop that would promise the most immediate and secure return-on-investment for the state's meager financial resources available for infrastructure development. The ultimate decision, not made until 1836, was to develop rail, water, and roads simultaneously. However, before this decision was in place the United States Congress offered an inducement to build a canal.

On 2 March 1827, Congress helped Indiana decide on one facet of its internal improvement program by providing a grant of over 500,000 acres of land. This grant was in response to intense lobbying efforts from a delegation of Indiana representatives, including ex-Governor Jennings and William Hendricks. The terms of the grant called for "a strip of land one-half of five sections wide, on either side of the canal, reserving alternate sections to be selected by a canal commissioner under direction of the president." The grant further stipulated that the construction on the canal would begin by 1832.[5] Indiana accepted the grant and dilly-dallied for the next five years. The looming possibility of losing the land grant pushed Indiana to begin work on the Wabash and Erie Canal at Fort Wayne on 22 February 1832. Built primarily by Irish immigrants who had learned their canal-building skills in Pennsylvania and Ohio, the canal progressed slowly towards Huntington County, Indiana, which it reached in July 1835 (see Map 1, page 11).[6]



Map 1

SOURCE:
Logan Esarey, "Internal Improvements in Indiana," *Indiana Historical Society Publications*, Indianapolis, Indiana: Edward J. Hecker, 1912: n.p.

In 1836, after urging the General Assembly "to follow the successful examples of other states," Indiana's Governor Noblesigned a bill into law that provided for eight internal improvement projects. Known as the Mammoth Internal Improvement Plan, it was designed to satisfy regional, political, and special interests within the state that previously could not reach consensus.[7] The eight projects approved for funding included roads, railroads, and canals; everyone came out a winner!

The majority of funding in this Mammoth Plan was allocated to the building of canals: the Wabash and Erie Canal already in progress; the Whitewater Canal along the southeastern border with Ohio; and the Central Canal. The Central Canal, which branched off from the Wabash and Erie Canal near Peru, was intended to connect towns like Marion, Noblesville, Broad Ripple, Indianapolis, and Martinsville with the Cross-cut Canal at Worthington in Greene County. The terminus for the Central Canal was to be on the Ohio River in the vicinity of Evansville, Indiana, (see Map 1, page 11). The legislation also empowered three canal-fund commissioners to borrow $10 million for 25 years, at 5 percent. Upon completion in 1853, the Wabash and Erie Canal would traverse 459 miles from Toledo, Ohio, on Lake Erie to Evansville, Indiana, on the Ohio River.[8]

Indiana possessed a geographical advantage that supported the building of canals, either as a main effort or in

conjunction with other means of transportation. Bounded on the South by the Ohio River and bisected northeast to southwest by the Wabash River, Indiana was blessed with the natural resources and the topographical features needed for a waterway connecting the Great Lakes with the markets of New Orleans via the Mississippi River. Proponents of canals argued that raw materials such as timber and stone were available. The necessary manpower to construct the canals was also on-hand or readily available. The signs were favorable for moving ahead with canal building.

Estimates of the potential success of Indiana's canals were accepted readily by local boosters and state legislators. The future looked promising but the prognosticators could not have foreseen the impending national financial crisis. The Panic of 1837, followed by a four-year long depression from 1839 to 1843, shook the foundations of the national economy and caused irreparable damage to Indiana's Mammoth Internal Improvement Plan. Indiana reached the brink of insolvency. By 1839, Indiana had accrued a debt of $11 million and was saddled with projects in progress that would require between $15 and $20 million to complete. Work stopped on the projects of the Mammoth Internal Improvement program. The Indiana General Assembly resolved to correct the situation by severely paring down earlier excesses. The paring-down process resulted in a modified Mammoth Internal Improvement Plan vastly-reduced to those projects that could be completed successfully and

would return revenues soonest. The Wabash and Erie Canal, by this time through Logansport and into Lafayette, received a stay of execution.[9]

As the citizens and politicians around the state began to realize the severity of their financial crisis, a hue and cry arose demanding that blame be fixed on the guilty parties responsible for this catastrophe. The General Assembly directed investigation upon investigation; the years 1839-1840 were squandered in attempts to fix blame and not the crisis. However, by 1841 some members of the General Assembly had become involved in establishing a classification system that would require one or two projects to be completed before another was started. For example, the Whitewater Canal would be completed before starting on an ambitious railroad venture. Although a classification act was passed, little action was accomplished under its aegis. After years of discussion, the Whitewater Canal finally was sold to a private company in 1842.[10] A portion of the Whitewater Canal, that extended from the vicinity of Lawrenceburg, Indiana, to Cincinnnati, Ohio, was responsible for a brisk trade that grew up between the Whitewater Valley and this busy port on the Ohio River.

In January 1842, the General Assembly authorized continuation of construction of the Wabash and Erie Canal from Lafayette on down to Terre Haute. For the next five years, construction progressed slowly; tolls and rents from the completed portion of the canal continued to fall short of

covering the expenses of new construction and repairs. But, to everyone's satisfaction a considerable export trade began to be evidenced. Docks, warehouses, and elevators sprang up in Peru, Lafayette, Lockport, Attica, and Logansport.[11]

In spite of signs of progress, investors in the Wabash and Erie Canal remained nervous about the future of their investments. In 1847, Charles Butler, an American representative for European investors, completed negotiations with Indiana concerning the future of the Wabash and Erie Canal and his clients' investments. Butler formed a Board of Trustees who would oversee the completion of the Wabash and Erie Canal for his clients. Of two options offered by Butler to help Indiana extricate itself from its debt to these bondholders, the General Assembly chose to transfer the Wabash and Erie Canal, its revenues and real property to the Trustees for relief of one-half the debt to bondholders. Indiana levied additional taxes to repay the remaining one-half of the original debt. The "Butler Bill" removed Indiana from the canal-building business. Butler and his fellow trustees, N.B. Palmer and Thomas H. Blake, accepted responsibility for completion of the canal down to the Ohio River and for its day-to-day management. The Trustees were to report to the General Assembly annually on the financial condition of the canal.[12]

Although a completed Central Canal never became a reality one of its remnants retains a place in the current history of

Indiana. The section of the Central Canal between Broad Ripple and Indianapolis was completed; other sections were started but never finished. In 1851, Shoup, Raridan and Newman, three businessmen in Indianapolis bought the remains of the Central Canal for its water power potential and for limited use in local transportation. Eventually, the Central Canal was sold to the Indianapolis Water Company and continues in use as a recreational feature and a water storage facility for Indianapolis.[13]

Under the supervision of the Trustees, construction on the Wabash and Erie Canal continued past Terre Haute and made connection, via the Cross-cut Canal, with the route of the never-completed Central Canal at Worthington, Indiana, (see Map 1, page 11). By 1853, the canal had reached Evansville, Indiana; it operated throughout its full length until 1860. After 1860, the lower canal -- Terre Haute to Evansville -- languished and died a natural death through disuse. The eastern portion from Lafayette, Indiana, to Toledo, Ohio, remained operational for a time however. By the late 1860s, it too ceased to exist as a major transportation resource in the region. In 1874, the Trustees relinquished their control of the Wabash and Erie Canal and returned the canal and its problems to Indiana.[14] Train whistles sounded taps for the Wabash and Erie Canal; even so, in its productive lifetime, the canal exerted a positive influence on the region through which it passed.

The survey of the route for the Wabash and Erie Canal through both Miami and Cass counties began in 1833. The surveyors and the canal commissioners considered a number of factors in selecting a canal right-of-way: water supply, soil composition, and the availability of raw materials. The presence of the few existing markets did have some influence on the decision makers. Logansport, already a steamboat port on the Wabash River, was a natural choice for the canal right-of-way but the choice of other locations was the source of much political maneuvering and loud cries for equal shares of the forthcoming benefits.[15]

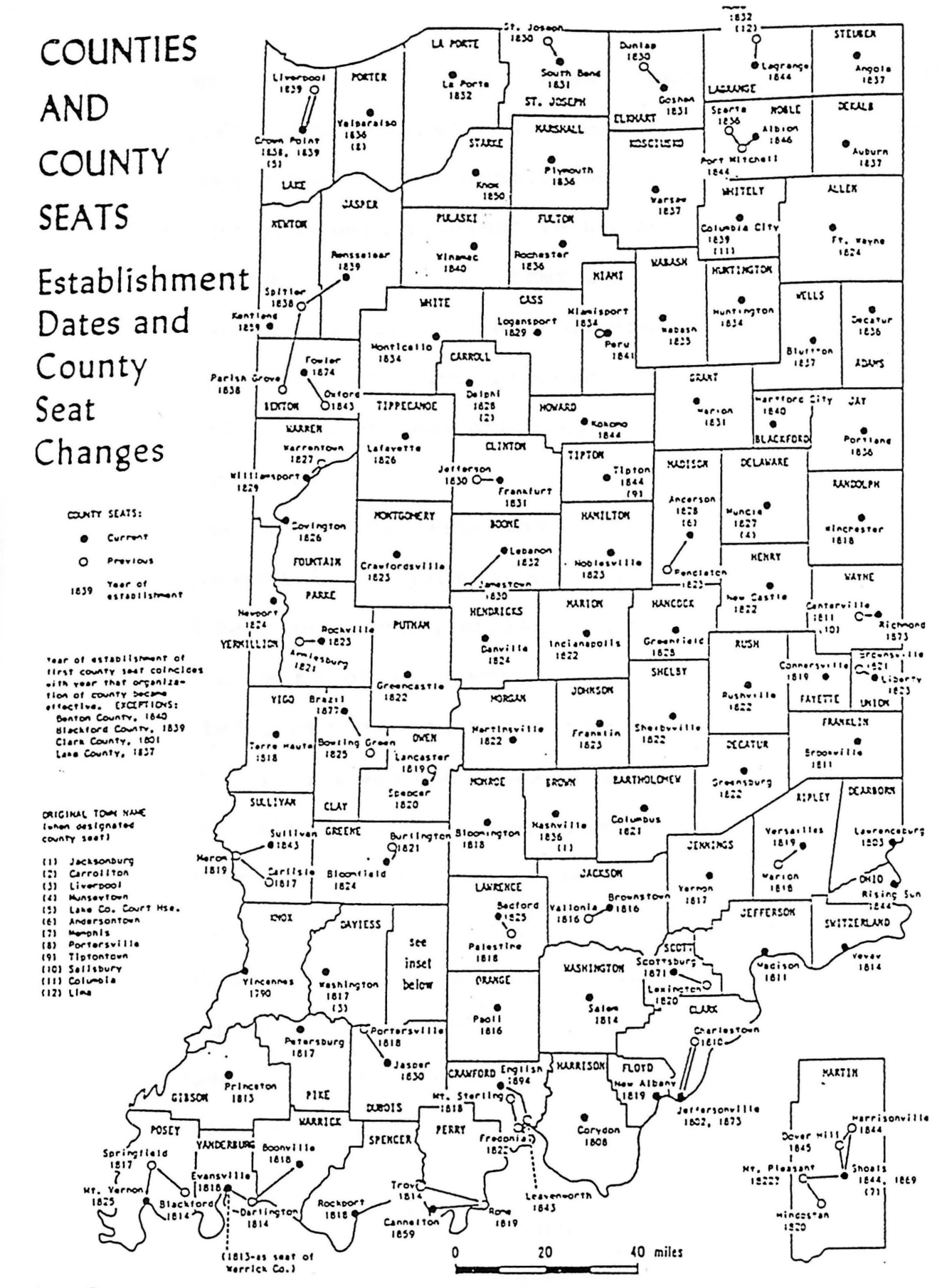
In retrospect, political machinations and sharing the spoils most likely jeopardized the success of the canal well before the facts of its true cost became apparent. The Mammoth Internal Improvement Plan, discussed earlier, was the political means to spread the wealth envisioned from the canal's success. Public demands for action forced the Board of Canal Commissioners to start small portions of the larger projects in different regions of the state. Alvin F. Harlow, in *Old Towpaths*, sums up the situation as follows: "With so much jealousy, incompetence and bargaining taking place in the State's business, it is not to be wondered at the discontent and sharp criticism that were presently rife among both people and legislators." Harlow goes on to say, "legislators were involved in a scuffle to see who could secure the most and the

largest plums for his own district."[16] With the atmosphere of get-rich-quick land speculation that prevailed in the state in 1835-36, it is easy to understand why decisions on the canal right-of-way raised such ire in land speculators who saw their investments being bypassed. Just such a circumstance occurred when Miamisport, Indiana, was bypassed in favor of the small nearby settlement of Peru.

Miamisport, a small trading settlement in the Wabash Valley, got the first nod as the center of commerce and settlement in Miami County (see Map 2, page 19). Arguments concerning the selection of rights-of-way were heard throughout the settled portions of Indiana and in its General Assembly. Accusations of personal gain and official malfeasance became widespread. In 1836, a select committee of the Indiana House of Representatives heard charges from Joseph Holman and "other citizens of the county of Miami" that Jesse L. Williams, the chief engineer of the Wabash and Erie Canal, had changed the line of the canal to "destroy the town of Miamisport for the purpose of building up and increasing the value of the town of Peru. This conclusion he. [Holman] came to from the fact that Mr. Williams was one of the proprietors of the town of Peru."[17] It is worthy of note that Holman was a major land owner and speculator in Miami County and Miamisport. Even the canal's chief engineer, the prestigious Jesse L. Williams, was a target of unscrupulous efforts to sway opinion in favor of land developer's schemes. While the

COUNTIES AND COUNTY SEATS

Establishment Dates and County Seat Changes



Map 2

SOURCE:
Robert Kingsbury, *An Atlas of Indiana*, Bloomington, Indiana: Indiana University Press, 1970: 9

selection of Peru may have had some economic overtones, Williams was involved in many commercial enterprises in the state and along the canal, including ownership of land in Peru. He also held interest in a commission house in Fort Wayne, Indiana, and various other business ventures and was not challenged concerning their ownership. His honesty was never disproved, and his professional integrity remains untarnished.[18] Williams was absolved of any wrong-doing by the select committee.

In the late 1820s, Peru was a struggling community with limited potential for going places. One account circa 1831, described Peru as "a small village between one and two hundred inhabitants, many of whom were laborers on the canal . . . [and] felled trees lay scattered over much of the place . . . outside [Peru], all was the dense primeval forest." Commercial activity was limited to merchandizing the basic necessities of flour, gunpowder, corn meal, and traps for fur-bearing animals. Consumer goods inbound from eastern markets before the Wabash and Erie Canal was built "were brought here [Peru] at much expense and trouble. One route taken was from Toledo by pirogues up the Maumee River to Fort Wayne then by wagon over primitive roads to their final destination." In 1829, the *Potawattimie and Miami Times* listed two retail establishments serving the community. Rumors concerning the forthcoming canal may have sparked additional retail growth

because by 1830 the same newspaper had added G.W. and W.G Ewing to the list of retailers.[19]

Well before the Wabash and Erie Canal was built, Logansport had a major developmental advantage over Peru. Platted in 1828 at the confluence of the Eel and Wabash Rivers, Logansport quickly became a busy little river port for small, shallow-draft river boats that plied the Wabash River. Arrivals of river boats were sporadic, however, due to the ever-changing water levels in the Wabash River. Logansport was an established trading center, small but growing, before the Wabash and Erie Canal became the dominant developmental force. The *Sylph*, a river boat packet operating between Cincinnati, Ohio, and Lafayette, Indiana, made irregular trips up the Wabash River. Logansport entertained the last river boat to call at its docks in 1836 when the *Republican* was grounded by low water. It eventually became a rotting hulk.[20]

Another transportation asset affecting the development of the Logansport community was the Michigan Road, on which construction began in 1829. When completed in the late 1830s, the road stretched from Madison, Indiana, on the Ohio River, northward and connected the towns of Greensburg, Indianapolis, Logansport, and South Bend with Michigan City on Lake Erie.[21] The intersection of the Wabash River, the Michigan Road, and the Wabash and Erie Canal in the same location enhanced Logansport's future as a transshipment point for the entire region. For a time after its initial settlement in 1828,

Logansport's level of commercial activity was similar to Peru's. The *Cass County Times*, 1830-1831, contains advertisements for three merchants in the community. By 1832, in addition to advertisements for two merchants, a forwarding and commission agent had established his business, one inn was catering to wagon crews, and a regular stage was operating between Lafayette and Logansport.[22]

BUILDING A CANAL

With the federal land grant accepted and construction on the Wabash and Erie Canal soon to begin, engineers were busy considering the construction requirements for building the components of a canal. Canals like the Wabash and Erie were made up of a number of distinct structures; the canal bed, locks, dams, aqueducts, reservoirs, feeder canals, and culverts. First, the canal bed was dug by thousands of Irish laborers using picks, shovels, and large scoop-like earth scrapers drawn by either mules or horses. The prism was twenty-four feet wide at the bottom, forty feet wide at the surface of the water, and four feet deep at the centerline of the canal bed. One of the embankments was a towpath, ten to fifteen feet in width, trod by mules or horses drawing the canal boats (see Figure 1, page 23).[23]

A sufficient supply of water for the canal was maintained by impounding water from the Wabash River behind feeder dams or by storing it in reservoirs along the right-of-way. The

CANAL CROSS SECTION
(Canal Prism)

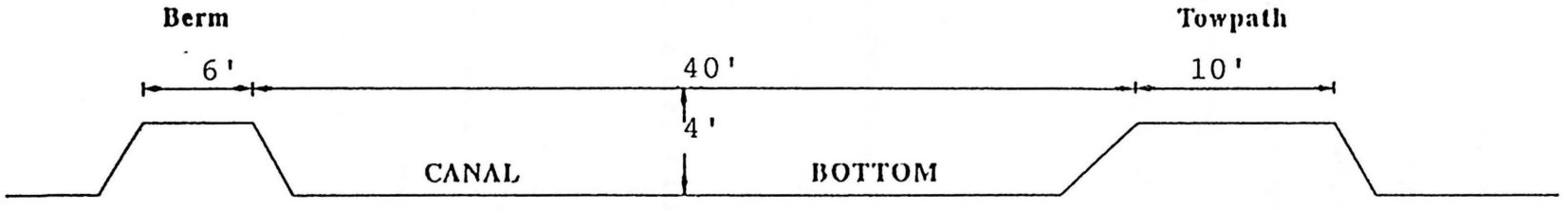


Figure 1

SOURCE: Engineering Notebook of WS Webb
Archives Section, Commission on Public Records
State of Indiana

depth of the water was maintained by dispensing it into the main canal by small feeder canals or by varying the height of weirs positioned in the canal banks. Differences in elevation along the route of the canal were compensated for by a system of locks in which canal boats were raised or lowered as the direction of travel required. The pressure head, created at feeder dams or by tumbledowns at locks, attracted builders of woolen, paper, and sawmills that took advantage of this water power to operate their machinery. To cross streams and depressions in the ground, canal builders used either aqueducts or culverts depending on the width of the obstacle.[24]

There was a fatal flaw in Indiana's administration of the canal-building process. In the 1830s, procedures for contracting labor and materials to build Indiana's canals allowed separate contractors to bid and build individual sections of the canal. Sections of canal were completed randomly without consideration for linkage with other completed sections or an available water supply. The scatteration effect resulting from this policy allowed individual sections of canal to be built in the middle of nowhere along the right-of-way.[25]

The policy that engendered this haphazard schedule of construction was partly the fault of canal administrators and partly the fault of the political situation discussed earlier. In a effort to please everyone, small portions of roads, sections of three different canals, and the Madison to

Indianapolis railroad were all started at the same time. The issue at hand was the appearance of progress not necessarily the accomplishment of a full project. As a result of this mismanagement, sections of the Wabash and Erie Canal were completed before connection with the operational portion was possible. In other words, contractors, workmen, engineers, surveyors, and wholesalers had to be paid long before any revenues were derived from a completed section. Debt piled up for completed sections that would not be producing revenues for a year or more.

The dilemma faced by the General Assembly in 1835 was never really solved. The Mammoth Internal Improvement Plan was not the solution; it spread the benefit of internal improvements around the state but the spread was a mile wide and an inch deep. By not setting priorities to complete one phase of the Plan before moving on to another, the General Assembly, unknowingly, laid a course for failure. In retrospect, it is easy to pinpoint the mismanagement that plagued the canal-building process, but the positive effects of this state-initiated and state-funded program of infrastructure development can not be ignored. The benefits were many in number and wide-spread across northern Indiana.

Chapter 3

The Benefits

Harvey H. Segal, a noted economic historian, discusses the measurement of economic impact of canals in a book edited by Carter Goodrich and titled *Canals and American Economic Development*. Through the use of modern benefit-cost analysis techniques, Segal argues that although costs to society during the canal-building era were high the ultimate benefits were worthwhile. The scope of Segal's research includes eight canals in four different states. His macro approach exceeds the scope of this thesis; however, by taking advantage of Segal's basic discussion of benefit analysis, the influence of the Wabash and Erie Canal on Peru and Logansport can be better appreciated. Segal argues that one of the most significant direct benefits conferred by canals was the lowering of transportation costs. This benefit and its indirect effects were multiplied or accelerated over time.[1]

Building upon, and extrapolating from, the analysis developed by Segal, this thesis assesses the direct and indirect benefits that Peru and Logansport enjoyed as a result of the Wabash and Erie Canal. Benefits directly attributable to the Wabash and Erie Canal will be defined as demographic and economic changes that occurred in Peru and Logansport -- the measurable impacts occurring immediately before and after the canal's presence. The indirect benefits, those evolving

from Segal's argument concerning the cost of transportation, are benefits whose effects were accelerated or multiplied by building the canal. It is difficult to imagine that northern Indiana would not have developed as a region of great agricultural production if the Wabash and Erie Canal had never been built. It is much easier to imagine that the reduction in costs of transportation created an economic environment in which surplus agricultural production became profitable much more quickly than if costs had remained high. This shift to surplus production enabled farmers to realize profits from their labors, subsequently resulted in increased immigration into the region to take advantage of the canal, and generated more income for farmers to spend on consumer goods. The presence of the canal accelerated the settlement process and shortened the evolution of the agricultural sector of the economy in northern Indiana.

DIRECT BENEFITS

Availability of Land

The most obvious direct benefit evolved from the federal land grant to Indiana in 1827. Through a series of land grants, Indiana received over one-half million acres for the purpose of providing funds for construction of the canal and to furnish a route for the canal. The first grant from the federal government was shared with Ohio to provide land for the section of the Wabash and Erie Canal in Ohio that would

complete the link with Lake Erie. In the long term, the canal and the lands made available from the federal government were real incentives for people to move into the Wabash River Valley.[2]

Settlers coming to Peru and Logansport did so because land was available in large amounts and financing its purchase was simple. Indiana sold canal lands to anyone having a small down payment and the tenacity to improve the land for the full term of the mortgage. Canal land was sold using two financing schemes: one-fourth down payment with seventeen years to pay off the debt or one-seventh down payment and the remainder in six equal annual payments.[3] Newspaper advertisements listed land for sale in amounts ranging from $3 to $7 an acre. In actuality, the land sometimes sold for as little as $1.25 an acre. State records from the 1840s indicate that the price per acre followed the general economic conditions in the region. The potential dollar-value of the federal land grant to the state was continually overestimated by Indiana's decision makers. For a decade, decisions made about the continued life of the canal-building program were predicated on an estimated value of $10 an acre. The state never realized that amount on the initial sale of any canal land.[4] In spite of drawbacks in land sale programs, Peru and Logansport benefitted directly from the flood of settlers drawn by the availability of land and the potential of the canal. This influence was felt throughout the region.

The lure of available land and the potential of the canal could not sustain a steady market. Sales of canal land forever lagged behind expectations, but settlers continued to be drawn to Peru and to Miami County. Indiana sold 316,421 acres of Wabash and Erie Canal lands from 1830 to 1844. In the heyday of canal-boom land sales, 1834-1836, the state sold roughly one-half of the total acreage alienated during the entire fourteen-year period. After 1844, initial sales of canal land in Miami and Cass counties were minimal, which further demonstrates the surge in land sales generated by the immediate effect of the canal's forthcoming construction. Although sales of land were sporadic in the latter part of this 15-year period, farmers continued to acquire land in the belief that surplus agricultural production (with its increased profits to the farmers) would continue to be exported at low cost.[5]

Revenues from the sale of canal lands never accomplished one of their original purposes, i.e., paying for the construction of the Wabash and Erie Canal. Part of this inadequacy or erosion stemmed from state legislation that allowed buyers to pay mortgage debts to the state in depreciated canal scrip. These scrip, known variously as "White Dog", "Red Dog", and "Blue Dog," were sometimes the only commercial medium circulating along the canal. Their names reflected the color of the paper on which they were printed. Merchants in Peru and Logansport individually

accepted these scrip at full value in the belief that they were redeemable at face value after the completion of the canal, but this was not the case. Issued to finance the canal with future debt and backed by the general revenues of Indiana, these scrip suffered from wildly fluctuating percentages of discount. These fluctuations occurred, in part, because completion of the Wabash and Erie Canal remained a questionable undertaking in the minds of many of Indiana's legislators.[6]

Scrip, in its different forms, varied in true value from cash money by as much as 40 to 50 percent. Merchants became suspicious of the rapidly declining value of the paper. In 1842, "White Dog" scrip was acceptable at near equal value to cash, but in a few short months, the value had depreciated between 30 and 50 percent. During the mid-1840s, the Logansport *Democratic Pharos* carried the "White Dog" and "Blue Pup" quotations in the weekly "Cash Prices Current" section of the newspaper.[7]

Growth of Population

The price of canal lands fluctuated in accord with the regional economy, but the numbers of settlers moving into the Wabash River Valley never slackened. The lure of land, at good prices and under favorable mortgage terms, brought many settlers from the northeastern and mid-Atlantic states. According to the United States Census of 1840, the population

of Miami County, in reality Peru was Miami County at this time, increased from a few hundred persons to 3,048 between 1830 and 1840. In two decades, 1840-1860, Peru, the population center in Miami County, doubled its population from 1,266 to 2,506 residents. The majority of this increase correlates with the opening of the canal to Peru from Fort Wayne in 1837. From modest beginnings in 1832, Peru became a regional population center in just under three decades.[8]

The impact of the Wabash and Erie Canal on population growth was apparent in Fort Wayne, Indiana. It is not a coincidence that the population of Allen County, the location of the major terminus on the canal, Fort Wayne, experienced almost identical population growth as that of Miami County during the first two decades of operations of the Wabash and Erie Canal. It was not until after 1860, when railroads became the primary means of transporting bulk freight and Fort Wayne had become an established transshipment point, that the population of Allen County surged past that of Cass and Miami counties.[9]

Cass County, the location of Logansport, experienced a rate of growth similar to Allen and Miami counties. The Census of 1830 enumerated 1,162 residents in the county; by 1860 that number has increased to 16,843 residents. Cass County's rate of population growth demonstrated the impetus to settlement imparted by the available canal lands at very reasonable prices. In three decades, Cass County's population equaled or

surpassed the population counts of all the other Indiana counties that had been settled in the 1810s and 1820s -- Jennings, Johnson, and Knox counties.[10]

The city of Logansport experienced growth similar to that of Cass County. From 2,251 residents in 1850 to 8,950 residents in 1870, Logansport expanded its territorial limits as commercial and agricultural pursuits continued to grow. By the Census of 1870, Logansport's physical boundaries had moved outward to incorporate small, outlying settlements. This added 3,241 residents to the city's rolls.[11]

A better understanding of H. Jerome Cranmer's two types of canals, "exploitative" and "developmental," is possible by comparing the limited effect the Whitewater Canal had on growth versus the much greater impact of the Wabash and Erie Canal. Although the Whitewater Canal in southeastern Indiana (see Map 1, page 11) provided a means for exporting products to markets in Cincinnati, Ohio, and for importing consumer goods, it did not spur significant growth in various communities along its route. For example, Fayette (Connersville), Franklin (Brookville) and Dearborn (Lawrenceburg) counties do not show any significant increases in populations during the 1830s, 1840s, and 1850s, during which time the Whitewater Canal was in operation, wholly or in part. Connersville increased its population by approximately 1,100 residents during this thirty-year period; Brookville by

approximately 800 residents, and Lawrenceburg by approximately 600 residents.[12]

The Whitewater Canal was less significant to the growth of its communities than the Wabash and Erie Canal was to Peru and Logansport. The best explanation of this reduced significance can found by referring back to Cranmer's earlier distinction between canals. The communities in the southeastern counties of Indiana were well established when the Whitewater Canal was conceived and built. These communities surely derived some benefit from the Whitewater Canal, but they experienced the influence of an "exploitative" canal, i.e., a canal built to exploit already established markets and population centers.[13] Growth in population and economic pursuits was tempered by the presence of established markets with developed boundaries and a stable population. New settlers did not immigrate to take advantage of large amounts of inexpensive land. Much of the land in the valley was developed already; therefore, not as inexpensive as the acreage from the Wabash and Erie Canal land grant. The Whitewater Canal could not hope to match the "developmental" canal's impetus to growth that Peru and Logansport experienced.

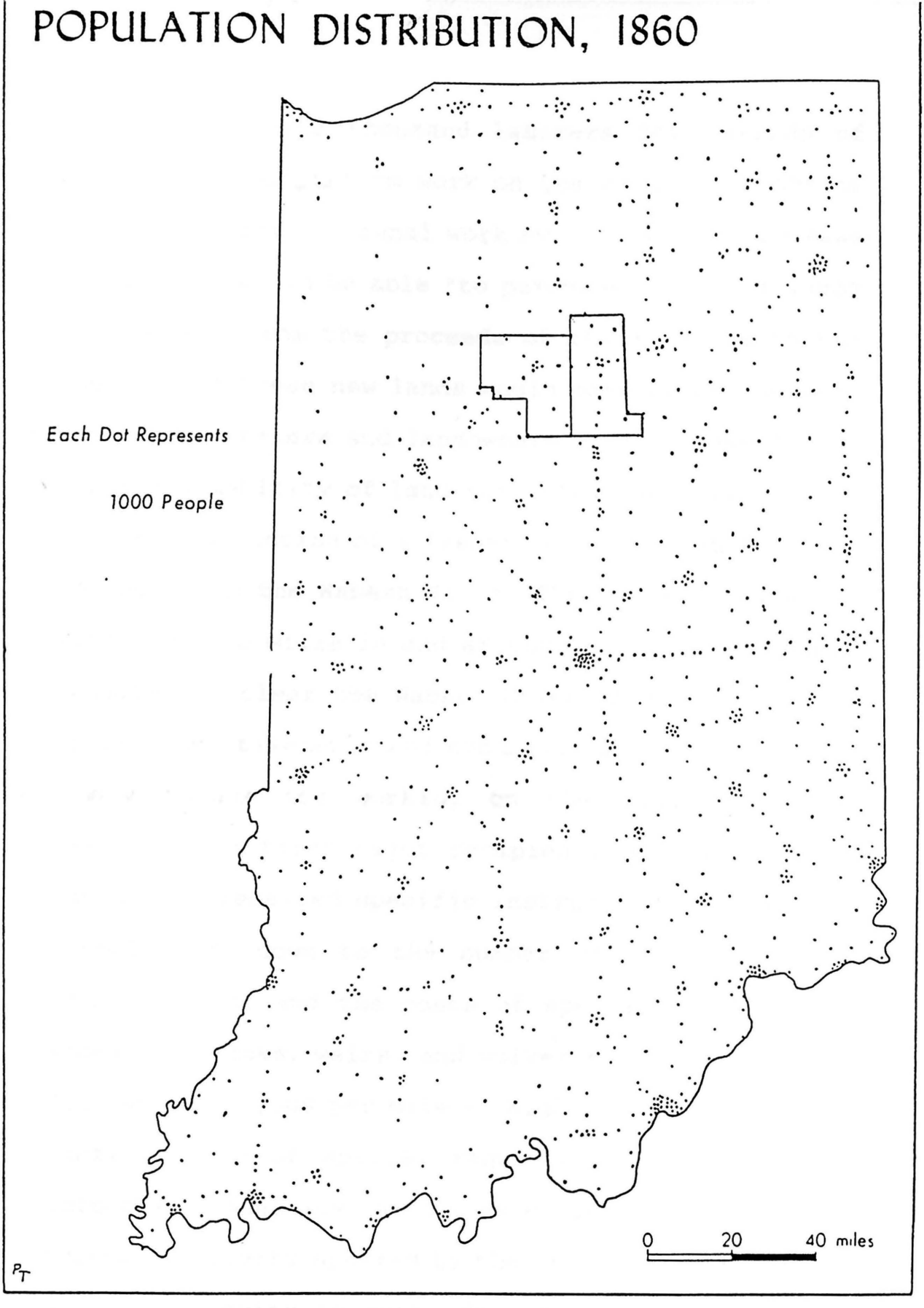
By 1860, the presence of canal ports had begun to shape the demographic landscape in northern Indiana. The linkages between local road networks, the Wabash and Erie Canal route, and later, the railroad rights-of-way created recognizable

clusters of population (see Map 3, page 35). The Wabash and Erie Canal initiated patterns of development along its course: population, economic, and commercial growth in communities like Peru and Logansport reflected the canal's influence. This same pattern continued under the influence of the railroads that followed the trace of the Wabash and Erie Canal. The silhouette of Miami and Cass counties, superimposed over a few of Indiana's population centers in 1860, emphasizes the impact that transportation development had on settlement in the Wabash River Valley. The cluster of population to the southwest of Logansport is Lafayette; the one to the northeast of Peru is Fort Wayne.[14]

Initial Economic Activity

A direct benefit from the canal-building boom, even more immediate than population growth or sales of canal land, was the initial monies funneled into the communities by the first phase of construction of the Wabash and Erie Canal. This economic largesse came in the form of wages paid to workers, money spent by contractors for local materials such as wood, quarried stone, metal hardware for locks and gates, fodder for livestock, the livestock themselves, and supplies for their workers.[15]

Calls for bids from contractors appeared in newspapers in the immediate vicinity of the canal right-of-way. The Logansport *Canal Telegraph*, 12 April 1834, carried a notice



Map 3

SOURCE:
Robert Kingsbury, *An Atlas of Indiana*, Bloomington, Indiana: Indiana University Press, 1970: 30

soliciting two or three thousand laborers for periods of three to four years to perform work on the canal. The notice embellished the benefits of canal work by alluding to the ease with which laborers would be able "to purchase tracts of lands of 80 or 160 acres" from the proceeds of their labors on the canal. Ownership of these new lands would make these laborers into "respectable settlers and landowners." This same notice announced the availability of land for a "valuable mill site" created by the construction of a feeder dam just upstream from the site of Peru, on the Wabash River. The dam at Peru would furnish waterpower to mills in and around the community until it was dynamited to clear the Wabash River in 1880.[16]

Newspaper advertisements and handbills promised laborers a great many things for working on the canal, but the contractors were the first major recipients of any tangible gains. Contractors received specific instructions on the work to be accomplished, down to the number of cubic yards of material to be moved, and the costs of special construction such as aqueducts, locks, weirs, and culverts. With an average cost of $12,000 to $15,000 per mile -- higher on some sections of the canal because of special requirements -- the money brought into the communities through wages paid to the workers and the economic activity spurred by the need for construction materials added velocity to every dollar spent. Contractors working in Cass and Miami counties normally charged the following in the construction of a section of the canal: $.18

for each cubic yard of earth moved and $275 for a fully planked bridge. If they were fortunate, they received $700 for a operational lock in their section. Regional economies, limited thus far to local requirements for a few farmers, burgeoned as they met the needs of the laborers on the canal. From a review of contracts, contractors on most sections of the Wabash and Erie Canal appear to have been individuals who lived in the immediate area.[17]

The purchase of construction materials required to build the canal also generated cash flow for local wholesalers. A primary construction material bought from local suppliers was lumber for the building of locks, waste gates, bridges over the canal or the Wabash river, aqueducts to cross streams or depressions in the ground, and wharfage around canal basins for loading and unloading passengers and freight. This lumber was acquired from local tradesmen involved in the logging and sawmill business. These sawmills continued in operation well after initial construction of the canal. Reports of toll collections throughout the 1840s and early 1850s indicate that thousands of board feet of lumber were exported on the canal.[18] Stone from local quarries in the area of Lagro and Utica was used to build the sidewalls of locks and the abutments of aqueducts and bridges.[19] Such structures put a great number of stone masons to work. Construction material required pick-up and delivery to the work sites, and local haulers received some share of direct benefit from the canal. The livery

business grew because of the use of mules and horses as earthmovers and the need to feed their growing numbers.

Businesses other than those in the local community had to be assured access to the canal; therefore, contractors built bridges over the canal or other water barriers as part of their regular work. These bridges, required by state law, ensured that no farmer was excluded from the main market place. Contractors charged $.06 to $.08 per square foot for planking and other components of bridge superstructure. Throughout the life of the canal, bridges, locks, waste weirs, and aqueducts required periodic replacement. Local contractors, sawmills, and lumbermen had a continual but dwindling source of income during the active life of the canal. In 1853, expenditures for repair and maintenance of canal structures in the vicinity of Peru and Logansport provided approximately $16,000 worth of goods and services for local businesses. In 1854, the amount was approximately $24,000 for similar business. Included were simple items such as fodder for horses used by canal cleaners and more complicated equipment required for the replacement of lock doors, portions of aqueducts, or entire culverts.[20]

Various estimates place the standard daily wage for canal laborers in a range from $.30 to $.80 and two meals a day to as much as $1 a day per man. Such labor costs on the Wabash and Erie Canal reflected the current condition of the labor pool and general economic climate of the region. Section work

gangs often mustered from 600 to 800 each men earning an average daily wage of $.60; the cumulative financial benefit to both Peru and Logansport had to be very positive. Simple arithmetic, 600 men times $19 a month, demonstrates that monthly payrolls ranging from $11,000 to $12,000 must have fueled the economies of communities along the right-of-way.[21] Considering the low level of economic activity in these communities before the arrival of the canal, laborer's wages were a significant shot in the arm to regional development.

Lower Cost of Transportation

The construction money flowing into the communities had an immediate effect on their economies, but the most important direct benefit of the canal was the lowering of transportation costs. Before the canal, the price of consumer goods in the Wabash River Valley was higher than encountered in more settled regions already serviced by more thoroughly developed systems of transportation capable of moving bulk cargo. The difference in prices was the incrementally higher cost of transporting goods overland from eastern manufacturers. In the 1820s and 1830s, rates for overland (road or turnpike) bulk shipments were between $.30 and $.70 per ton mile. In Indiana in 1819 for example, the minimum price for overland conveyance of one hundred pounds of goods was $.50 for every twenty miles or $.50 per ton mile. Roads and turnpikes were subject to seasonal weather conditions that either stopped their use or

greatly extended the time required for trips. Freight rates on steam boats were not much lower than those for wagon conveyance: $.32 to $.34 per hundred weight in the 1840s was common.[22] High cost of transportation narrowed or nullified the potential profits to retailers and provided little incentive for local farmers to move to surplus production of agriculture.

In the 1840s and early 1850s, overland shipping costs by wagon were prohibitive for bulk items - grains, lumber, stone, and barreled goods (pork, salt, and flour). Once connection with Lake Erie through Toledo, Ohio, was established in 1843, the Wabash and Erie Canal became the prime mover of goods and people in the region. A pamphlet titled *Orders, Rules, Regulations and Rates of Toll* issued by the Board of Trustees of the Wabash and Erie Canal, contains rates of toll for shipments on the canal in 1848. The rates of toll for importing merchandise, furniture, and other general cargo via the canal in 1848 were significantly lower than the $.30 to $.70 per ton-mile charged by the wagon freighters. For example, the cost of shipping one ton of fine salt 100 miles by canal boat was only $1.50; wagon freight could have cost as much as $70. Lower costs of transportation were also achieved by decreasing the mills per ton for distances exceeding 100 miles. A mill is one-tenth of a cent and was commonly used in computing rates of toll. An example of this pricing follows: a ton of grave stones cost 12 mills per mile to ship less than

100 miles but only 8 mills per mile for longer trips.[23] Incentives for customers using the canal to ship longer distances at reduced cost, induced them to expand the boundaries of their markets.

Everyday items such as animal skins, soap, whiskey, and domestic seeds enjoyed similar beneficial rates of toll that enhanced the development of wider markets. To increase the development of intrastate markets, tolls on the Wabash and Erie Canal were computed differently for shipments intrastate versus those shipments that crossed state boundaries. For articles transported exclusively within Indiana special rates of toll were computed that favored the longer haul. One thousand board feet of lumber moved twenty miles would cost ten mills; if shipped over twenty miles the costs dropped to five mills per thousand feet.[24] No other means of transportation extant at the time could challenge these rates for bulk shipment.

In 1843, after the canal became fully operational between Logansport, Indiana, and Toledo, Ohio, the general rate of toll for wagon transportation was between $.30 and $.70 a ton-mile. Concurrent rates of toll on the Wabash and Erie Canal were slightly less than $.02 per ton-mile. This price competition reduced wagon rates to an average of $.15 per ton-mile by 1850. Despite these reductions in overland conveyance -- $.15 or $.16 per ton mile -- wagon freighters could not compete successfully against the rates of toll for

transportation on the canal.[25] The added safety for breakable goods afforded by the canal was an attractive feature of water shipment. The canal made possible the economical shipment of bulk cargo and breakables. It allowed consumer goods to be sold to rapidly growing populations at cheaper prices, with a reasonable profit margin for dry goods merchants.

The sum effect of lowering costs of transportation was most evident to consumers in the Wabash River Valley. The total price of salt used for meat packing dropped from $6 a barrel to $1.50 a barrel, while the cost of calico cloth fell from slightly more than $.37 per yard to a price ranging from $.12 to $.13 per yard. Stylish boots and shoes from eastern manufacturers sold for half the pre-canal price.[26]

INDIRECT BENEFITS

The direct benefits derived from the Wabash and Erie Canal are easier to identify and to measure than the indirect benefits; the last being more permanent but less conspicuous. After 1839, Peru and Logansport began to experience similar commercial development in the business districts centered around the canal basins. This commercial development spurred new enterprises that increased the pool of money available for investment and the expansion of businesses.[27]

Establishment of a Tax Base

After settlers moved into the Wabash River Valley, the improvements they made to their properties added value to their holdings. This added value became the foundation of a property tax system designed to finance improvements to local infrastructure. The growth of the local tax base was an indirect benefit of the Wabash and Erie Canal. Annual reports made by the Auditor of the State of Indiana to the Indiana General Assembly in the 1840s and 1850s contained the assessed value of land for taxation purposes in Miami and Cass counties. This report captured property assessments from all the counties in the state and provided a common base for evaluation. Although the formulas used to arrive at values are not known, an assumption can be made that computational errors in arriving at the assessments are constant. The trends indicated are valid and provide a basis for comparison.

The number of acres assessed in Miami County nearly doubled in one year -- 1841 to 1842-- from 57,311 acres to 105,850 acres. The value of the assessed land increased ever more rapidly; in 1841, it was $123,786. By 1842, the value of the assessments had increased to $356,798. The value of town lots in Peru increased from $74,050 in 1842 to $99,321 in 1846. Choice town lots in Logansport and Peru continued to increase in value even though the price of unimproved land plummeted to its lowest levels. Newspapers in the Wabash River Valley in the late 1840s indicate a brisk business in real estate.[28] The significance of the tax base lies not in numbers

but rather in the roads, schools, and bridges constructed with these monies -- infrastructure improvements that indicated a healthy, growing community.

As the tax base expanded through the normal process of continued sales of land and improvements to existing acreage, individuals and commercial activities increased their worth and generated an even stronger tax base to support the community. By the early 1850s, tax assessors included real and personal property in their tax evaluations. Evaluations for residents of Miami County in the years 1852, 1853, and 1854, reached $1.6, $2.6, and $3.0 million respectively. By 1854, the acreage assessed in Miami County for tax purposes had risen to about 240,000 acres, a significant increase from the 57,311 acres considered just 13 years earlier.[29]

Using similar census data, the influence of the Wabash and Erie Canal can be demonstrated clearly for Cass County. Although these assessments deal with the entirety of Cass County, Logansport constituted the focal point for development. The number of acres of land assessed increased from 126,839 in 1841 to 146,607 in 1842. The volume of sales of canal lands around this period of time was much lower than during the boom period, 1834-1836. By 1846, the number of acres assessed for taxation purposes had increased to 198,728. The value of town lots then was $199,324, an increase from $182,894 in 1842. Cass County's real and personal property valuations for the years 1852, 1853, and 1854 increased

rapidly from $2.64, to $3.48, to $4.47 million. Acreage entered for taxation in Cass County for 1854 was 296,046 acres, well more than double the 1841 figure of 126,839 acres.[30]

Although the tax base in Miami and Cass counties continued to expand, the same cannot be said of other regions in the state. By way of comparison, Franklin, Dearborn, and Fayette counties in the eastern portion of the state, along the route of the Whitewater Canal, also experienced growth but not nearly the magnitude demonstrated by the commercial centers of Logansport and Peru along the Wabash and Erie Canal. More enlightening is the fact that the number of acres entered for taxation in these three counties shows no increase for 1853-54, which may well indicate that development had leveled off; the time of great expansion in eastern Indiana had passed.[31]

Production of Water Power

Advocates of canals often used the ancillary development of water power resources to add weight to their arguments in favor of canals. The production of water power was an original advantage that canals possessed over other means of transportation considered, and to some degree, tipped the scales in favor of canals. Aside from the obvious financial gain from fees charged for the use of water from the canal to the mills along its route, the production of readily

accessible power created the capability for mills to produce flour, corn meal, lumber, and woolen goods for local consumption or export. The second annual report (1837) of the Indiana Board of Internal Improvements contains a statement that reflects the importance of water power in the development of the communities along its route. While discussing the importance of the Wabash and Erie Canal to his business, a land developer noted, "it has been found almost impossible to prevent Towns from springing up . . . due in part from the onslaught of manufacturers seeking water power sites for their carding machines, Turning lathes, mills, factories &,&." Peru and Logansport developed milling and manufacturing industries based on the availability of water power, access to inexpensive means of transportation, and the presence of the raw materials needed.[32] A secondary benefit from the growth of the milling industry was the work provided to local sawmills. Their labor force, very likely attracted to the locale because of the canal, produced the lumber used by millwrights to build the initial structures.

Farmers growing corn and wheat near Logansport and Peru had ready access to the mills in the area. Although access to navigable waters was not a prerequisite for large-scale grain production, there was a high correlation between the location of mills and navigable waters. Farmers realized benefits of nearby mills that saved them time and money as they converted their corn and wheat into meal or flour.[33] Sawmills, grist

mills, woolen mills, and other establishments along the route of the canal tapped into the power of the canal through the use of water wheels. Of benefits indirectly related to the presence of the Wabash and Erie Canal, water power was the only element associated with operation of the canal that consistently generated revenues and was a visible benefit to the public.[34]

Growth of Commercial Activity

The business generated by the construction of the Wabash and Erie Canal encouraged retailers and wholesalers to expand inventories and import a wider variety of goods. Coupled with the lowered cost of transportation, increased consumer demand called for expanded inventories to take advantage of increases in discretionary income resulting from surplus agricultural production. From 1831 onward, the number of merchants conducting business in Peru increased as business opportunities flourished.[35]

By 1838-39, a few years after the opening of the canal through town, the Peru *Gazette* listed as many as four merchants and a smattering of other businesses such as cobblers, harness makers, chandlers, inns, and taverns. The post-canal inventory of articles available for sale to consumers had grown from staple items like flour, gunpowder, salt, and simple cloth to include such luxury items as Russian fur hats, English Queensware and glassware, fine cloth in bulk

rolls, French spirits, port and Malaga and Canary wines, fine cigars, and other exotic goods. These products were shipped from ports on the east coast using the water routes established by the Hudson River-Erie Canal-Lake Erie commercial route.[36]

Logansport, like Peru, began its period of development with a few merchants providing consumer goods to local customers at high prices influenced by the cost of overland shipping. The *Cass County Times* for 1831-32, one of Logansport's earlier regular newspapers, contained one or two advertisements in each issue for wholesale and retail merchants in the local community. Five years later, the number of newspaper advertisements for merchants seemed to increase in each issue. Firms such as Hanna, McCleary and Dart, Israel Johnson, Grocer, Benjamin Ganson, and H.A. Smead were in stiff competition with each other for the local farmer's newly-acquired disposable income.[37]

By 1840, after the arrival of the canal, retailers in Logansport such as the Howes Brothers had on hand from New York "a large assortment of Dry Goods, Groceries, Queensware, Hardware, etc, which they intend to offer at such prices as cannot fail to suit customers." Price appeared to have been more of an issue in newspaper advertisements after the arrival of the canal. Retailers no longer advertised in general terms. Competitiveness in pricing, now that shipping costs had dropped, resulted from wider margins of profit for goods

within which the retailers could price their wares and still realize a gain.[38] This move toward expansion of inventories was made possible, in large part, by much lower costs of transportation on the Wabash and Erie Canal.

More inexpensive consumer goods aided local farmers in moving from subsistence-level farming by allowing them to expend more time on market-related agriculture and less time on daily subsistence activities; as agricultural activity increased the demand for more time-saving consumer goods grew as well. Time once spent growing subsistence crops to feed the family and clearing more land could be applied to expanding grain and livestock production for export. Lower costs of transportation made the importation of more advanced farming equipment economically attractive. As Paul E. Johnson notes in *A Shopkeeper's Millennium*, "the commercialization [of agriculture] enabled farmers to trade their surplus for manufactured goods." While not an immediate transition, eventually farmers in the Wabash River Valley enjoyed a ready supply of "the necessities and little luxuries of rural life: guns and nails, shoes, hats, woolen cloth, wagons, furniture, farm tools--even jewelry and mirrors."[39] The increasing flow of consumer goods reduced, to some extent, the time involved in making basic necessities like soap, tools, and cloth. The time gained through the use of consumer goods was better applied to increasing the productivity of the land, and the

demand for more consumer goods expanded the boundaries of the wholesale and retail markets.

The Wabash and Erie Canal redirected the flow of commerce for the Wabash River Valley eastward through the Great Lakes instead of southward down the Wabash, Ohio, and Mississippi Rivers. The Midwest had access to eastern markets before the canal via the Mississippi River and New Orleans. The canal made access to eastern markets easier and less costly. In *The Visible Hand*, Alfred D. Chandler makes clear the magnitude of this change in the flow of grain shipments after the Erie Canal was completed. "Then, since the [Erie] canal provided a shorter route through a cooler part of the country (wheat and flour sent via New Orleans often rotted or soured)" explains Chandler, "production expanded. In 1839, Cleveland [Ohio] received 2.8 bushels of wheat and flour, or 87 percent more than New Orleans."[40] The Wabash and Erie Canal had the same effect on the flow of commerce in the Wabash River Valley as did the Erie Canal on the whole of the Mississippi Valley.

The flow of consumer goods into the Midwest caused an upward spiral in manufacturing activity in eastern factories that no amount of commerce with New Orleans could have produced. In *World Canals: Inland Navigation Past and Present*, Charles Hadfield acknowledges the importance of canals in Indiana when he says, "the creation of canal ports, the impetus given to corn shipments, population growth and land values, has caused one historian to write that the Wabash and

Erie Canal contributed 'the single most important development in the political and the economic life of Indiana in the mid-nineteenth century."[41] This shift from a subsistence economy to an agricultural surplus economy could not have occurred as rapidly or as efficiently without the presence of the canal.

Surplus agricultural production created business opportunities for a new sector of the economy. Commission agents coordinated the transshipment of agricultural and manufactured products from the surrounding countryside and acted as agents for inbound goods. These commission agents made the business of agriculture a year-around affair. By building large warehouses and operating the linkage mechanism between the producers and the transporters, they aided the flow of commerce. A more tangible function performed by commission agents was to make available immediately to farmers the rewards from their surplus production. Either by outright purchase of farm production or through a system of in-kind credit for consumer goods, the commercial establishments of Peru and Logansport created a local market economy that kindled further growth. The system of supply and demand operated well in these communities. Newspapers along the canal's right-of-way carried advertisements in every edition promising the best prices for corn, wheat, oats, tallow, or flax seed. Merchants offered to trade commodities for other items.[42]

Profits made by commission agents, canal boat owners, and retailers formed a pool of capital available to other businessmen for expansion of established firms and start-up of new enterprises. The editor of the Logansport *Canal Telegraph*, writing on the growth generated by the Wabash and Erie Canal commented: "Business increased rapidly in the early '40s. Docks, elevators, warehouses, hotels and mercantile establishments sprang up, and all the towns along the line [of the canal] prospered."[43]

The inn and hotel trade in the two communities grew along with the other commercial interests. Initially, the overnight accommodation business served crews of freight wagons and the limited number of travelers moving through the region. In 1835, only two inns in Logansport offered overnight accommodations, but the advertisements mentioned large, accessible corrals and wagon parks. After 1842, the Logansport *Democratic Pharos* contained advertisements for three boarding houses, for long and short term residence, and numerous hotels and taverns. Although it offers some insight to the mobility of the local and long-distance traveler, this segment of the commercial growth of the community never took on massive economic importance.[44]

The Michigan Road, which connected Madison, Indiana, with Michigan City, Indiana, ran through Logansport and gave this community a significant advantage over other canal ports. The location of this major north-south artery was an attraction to

merchants wanting to establish themselves in Logansport. Logansport became a primary transshipment point along the canal and served the same purpose for the railroads that followed. Commission agents established and operated the communication, financial, and distribution systems needed for their transactions. Freight moving on the canal had to be distributed by wagon to communities outside the boundaries of Logansport proper and outgoing exports from the hinterland had to be brought into town. This transition in transport, and the need to store goods, created a place for these agents who played an important part in laying the ground work for warehousing and hauling enterprises that grew with the increase in shipping on the canal. These agents were able to hold local produce until the price was most advantageous to them. Advertisements by commission agents in the Logansport *Canal Telegraph* during the 1840s contained calls for produce for shipment to eastern markets. Items such as whiskey, pork, barrel staves, and flax seed headed the list of calls.[45]

The activities of the commission agents assisted the creation of a commodity market in the region. Market demand for varied agricultural items developed in Peru and Logansport. From a few common items like corn meal, bacon, beef, lard, and corn listed in 1839 to a greatly expanded market consisting of fifty-four items, these commodities were listed weekly in the Logansport *Democratic Pharos* during the 1850s.[46] The increase in the number of items traded is

significant because it signaled the growth of a healthy economy still in a period of expansion.

This market activity spawned further commercial enterprise. Demand for hops, rye, potatoes, apples, cranberries, and ginseng helped to broaden the agricultural market. Although farmers in Miami and Cass counties relied on the wheat, corn, and oat crops for their livelihood, additional money could be earned by growing some of these other agricultural items.[47]

Growth in Agriculture

Favorable rates of toll to the terminus at Toledo, Ohio, inspired local farmers to enter into surplus production of grains, corn, and hogs. The Census of Manufactures for 1840 enumerated 8,127 bushels of wheat, 12,487 bushels of oats, and 179,143 bushels of corn produced in Miami County in the previous decade. The same census noted that capital investments in the county totaled $126,900. Farmers in Cass County produced 23,900 bushels of wheat, 37,304 bushels of oats, and 118,755 bushels of corn. Cass County's capital investments were only $7,200.[48] Twenty years later, the Agricultural Census of 1860 provided evidence of the astounding growth in farm production that had occurred. Miami County's production of wheat, oats, and corn had increased to 274,046, 59,711, and 808,997 bushels respectively. Capital investments in the county had reached $179,165 by 1860. Cass

County's agricultural production reflects similar growth. Its farmers grew 295,818 bushels of wheat, 50,250 bushels of oats, and 787,823 bushels of corn. The 1860 Census of Manufactures indicated that Cass County had ranked fifth in the state in the value of animals slaughtered - $183,038. Capital investments in Cass County had risen to $179,850.[49]

Reports by oficials of the Wabash and Erie Canal in the 1840s and 1850s show a steady increase in the volume and types of products shipped from the ports along the canal. Products shipped from Peru included flour, whiskey by the barrel, pot and pearl ashes, lumber and shingles, venison hams, and pork. Shipments clearing Logansport in 1845 contained 102,994 bushels of wheat, 4,863 bushels of corn, and 286,412 pounds of merchandise. According to records from 1847, 1,400 tons of stone from local quarries and 224 tons of lumber departed the wharfs in Peru and Logansport that year for markets elsewhere.[50] In 1854, canal officials in Logansport cleared 110,648 bushels of wheat, 363,448 bushels of corn, and 90,595 pounds of general merchandise.[51]

Development of Passenger Travel

Passenger travel into and around the Wabash River Valley became a large portion of the activity of the Wabash and Erie Canal. The Peru *Gazette*, 20 July 1839, contained an announcement by the Wabash and Erie Packet Boat Company telling readers about the daily schedule of boats from Fort

Wayne to Logansport. The packets, named *Erie* and *Wabash*, were "both new boats built expressly for Packets and will compare in point of style and comfort with any Packet Boat on the Erie canal." The advertisement further explained that available connections could be made with overland stages to reach other points.[52] The packets served a dual purpose; they moved larger numbers of people about the region more efficiently than wagons, and they provided linkage with other modes of transportation. In 1847, packet and freight boats logged 1,022,160 passenger miles between Lafayette and the Ohio border. Slow they may have been, but canal boats presented a great improvement over the kidney-crunching wagon rides on the plank roads of the day. Traveling at speeds of three to four miles per hour, the passengers on the canal boats took advantage of this slack time by walking towpaths, playing cards, or simply day-dreaming. Accommodations were crowded at night but sleep in close proximity to fellow passengers was favored over the rigors of sleeping wet, cold, and miserable alongside some stump-studded dirt road.[53]

The canals significantly shortened the time it took to travel from the east coast to the Midwest. In 1800, a traveler would have taken nearly four weeks to get from New York City to the Indiana Territory. By 1830, the time involved to make the same trip had been shortened to two weeks. The Erie Canal, in operation since 1825, reduced the travel time through its connection between the Hudson River and the Great lakes. By

1850, given the state of railroad construction in Indiana, a combination of canal and rail travel to the Wabash River Valley could have shortened the same trip to less than a week.[54]

Lifelong susceptibility to the vagaries of weather combined with the outbreak of "railroad fever" in the 1850s, foreshadowed the death of the Wabash and Erie Canal as the mainspring of settlement, population, commercial, and agricultural growth in Miami and Cass counties -- Peru and Logansport. As historian Victor Bogle reminds us, however, "when railroad fever first hit the Hoosier State, waterways were the accepted mode of transporting bulky materials over long distances. The initial purpose of the railroad was to supplement the waterway system."[55]

Chapter 4

Conclusion

Before its complete demise in 1874, the Wabash and Erie Canal was instrumental in creating advantageous conditions for rapid settlement, commercial and agricultural expansion, and population growth in the Wabash River Valley. From 1832 to 1860, this waterway profoundly influenced the lives of the residents within the boundaries of its route through northern Indiana.

The availability of canal land and of extremely generous mortgage terms attracted settlers by the thousands. Census returns reflect the immediate effect of immigration on Peru and Logansport. Peru would not have been platted where and when it was if not for the Wabash and Erie Canal; the community owed its very existence to the canal. Logansport was established prior to the arrival of the Wabash and Erie Canal, but the magnitude of population and commercial growth experienced by Logansport would have been unlikely if wholly dependent on river boat traffic and overland freight haulers. The Wabash River was not navigable for many months of the year. Rates of toll for overland conveyance decreased because of competition from the canal but never challenged those made possible by the canal. The cost of shipping by river boat never rivaled the rates offered by the canal. Neither of these means of transportation made land available.[1]

Direct benefits accrued during the initial phases of construction on the Wabash and Erie Canal as workers and contractors made demands on the local economy. These demands encouraged wholesalers and retailers to increase their inventories. Direct benefits continued in the communities from the wages paid to workers who kept the canal operational during its lifetime from 1832 to 1874. Further direct benefits were realized from the sale of material goods like fodder for animals working on the canal, lumber and construction material for repairs, and finally, from contracts awarded to keep the Wabash and Erie Canal operational throughout its effective life.

The lasting influence of the Wabash and Erie Canal, however, becomes most apparent when a series of interconnected indirect benefits are considered. The lowering of transportation costs triggered two changes in the lives of both communities: 1) the shift from a subsistence level to a surplus level of agricultural production raised per capita income in both communities; and, 2) the construction of the Wabash and Erie Canal made it possible for the region to dispose of its surplus agricultural production in higher-priced markets of the east.[2]

An increase in the per capita income in these communities was reflected in a number of ways. First, a demand for consumer goods to be purchased with this income stimulated commercial activity as evidenced by the proliferation of

retailers advertising their wares in local newspapers. In 1845, the Peru *Herald* contained advertisements for two retail establishments dealing in consumer goods; the same newspaper carried advertisements for five retailers in June 1847. Logansport experienced similar growth in the retail trade. By 1840, six grocers had advertised in the local newspapers. Settlers created demands for consumer goods and mercantile efforts to meet these demands resulted in growth of wholesale and retail sectors in the larger economy.[3]

A second outcome of increased per capita income was the growing presence of luxury items for sale in the local retail stores. Inventories now contained more than corn meal, flour, salt, and gunpowder. The Logansport *Herald* from 1837-1839 demonstrated this point. In two years, the retail inventories of H.A. Smead and Benjamin Ganson, two separate retailers, increased ten-fold and four-fold respectively. Many new items included in these inventories were furs, china, exotic liqueurs, and fancy cloth.[4]

The Wabash and Erie Canal was instrumental in beginning new commercial sectors of the larger economy. The business of storage, forwarding, and commission agents did not exist before the canal entered Peru or Logansport. These businessmen helped to establish the distribution, transshipping, handling, and warehousing systems that supported the expanded agricultural, and later, the manufacturing base of the larger economy. This was true in Peru but even more so in Logansport.

Visitors in the early 1860s would have noted rail, water, and overland traffic in the vicinity. Peru's distribution system was linked to Noblesville and Indianapolis by 1855. With the proximity of the Michigan Road, Logansport was a natural choice for the location of a booming transshipment center. Goods shipped at inexpensive rates of toll on the canal were stored and forwarded to their destinations by agents in Peru and Logansport.[5]

The development of water power in the Wabash River Valley was linked directly to the Wabash and Erie Canal. The many flour mills, woolen mills, and later, paper mills that dotted the banks of the canal accomplished one of the original goals of the General Assembly. State legislators believed in the need for available water power to aid development of the region. In 1846, they commissioned an engineer, John Cleveland, to conduct a study of the amount of water employed by the state's lessees and report the market value of leased hydraulic power. Cleveland's study, quoted in an article by Jon Teaford in *The Old Northwest*, found that mill owners usually used more water than they paid for but that the need existed to continue furnishing the hydraulic power because "of the benefit which the community derives from it." The benefit of hydraulic power manifested itself in the thousands of board feet of lumber cut in local sawmills, by the tons of flour ground, and by the pounds of wool carded in mills powered by the Wabash and Erie Canal.[6]

The Wabash and Erie Canal accelerated settlement, economic growth, and market concentration in the Wabash River Valley. There is little reason to believe that this region of Indiana would not have developed in time. The presence of the canal, however, accelerated the pace of settlement and the growth of population centers/markets at canal ports. The establishment of markets was critical to the region well past the life of the canal. Markets, according to Victor M. Bogle, played a major part in the decisions of early railroad planners and promoters. Markets already established by the canal offered railroads advantages such as warehousing, transshipping linkages, and population centers as customers without any requirement for immediate further development. In 1850, it was no accident that twenty-five of the newly chartered regional railroads had terminal points on the Wabash and Erie Canal.[7]

Historian/economist Harvey H. Segal argues that if the cost/benefit measurement of the canal experience in the United States is applied to the Wabash and Erie Canal north of Terre Haute, the communities along its route received the requisite value from the state's investment. Segal assesses the worth in the following manner: "If we deduct the $2 million invested on the [Wabash and Erie Canal] line between Terre Haute and Evansville and consider only the north-eastern portion of the canal, it is probable that the benefit conferred was equivalent to the cost." In other words, the balance of $6.2

million that was spent to complete the canal as far as Terre Haute did bestow benefits to society that were at least equal to the cost of construction of the canal to that point. The influence of the Wabash and Erie Canal on the development of Peru and Logansport demonstrates these benefits.[8] The investment in dollars, possibly even the cost associated with the damage to Indiana's financial reputation, was worth the expense.

The Wabash and Erie Canal lowered the cost of transportation to a level that encouraged the transition from subsistence level to surplus agriculture. Farmers got land at low cost, shipped their surplus production to eastern markets at profit-producing rates, cleared more land to grow more crops, and purchased consumer goods with increased per capita income. The agricultural and manufacturing sectors of the economy were ready to take their place in interregional markets because the canal made it possible. The influence of the Wabash and Erie Canal on Peru and Logansport can be summed up as follows--the canal contributed in a major way to the development of their economies and the benefits it offered attracted settlers who peopled the surrounding land. The canal filled a gap in the evolution of transportation between costly, arduous overland travel on roads or costly, dangerous travel by steamboats, and the advent of a less costly, more rapid system of railroads. The Wabash and Erie Canal made it possible for Indiana to do business in large, lucrative

markets earlier than if it had not been built. Contrary to opinions of many nineteenth-century historians, the Wabash and Erie Canal justified its cost.

NOTES

Chapter 1. Introduction

[1] John D. Barnhart and Donald F. Carmony, *Indiana: From Frontier to Industrial Commonwealth* 2 Volumes, (New York: Lewis Historical Publishing Company, 1954), Vol.I, 276; Ronald E Shaw, *Canals for a Nation: The Canal Era in the United States, 1790-1860* (Lexington, Ky.: University of Kentucky, 1990), 120-127; Ronald E. Shaw, "The Canal Era in the Old Northwest," *Transportation and the Early Nation* (Indianapolis, Ind.: Indiana Historical Society, 1982), 95; Ralph D. Gray, "The Canal Era in Indiana," *Transportation and the Early Nation* (Indianapolis, Ind.: Indiana Historical Society, 1982), 127-129; J.R. Frese and Jacob Judd, eds., *An Emerging Independent American Economy, 1815-1875* (Tarrytown, N.Y.: Sleepy Hollow Restorations, Inc., 1980), 94; J.L. Ringwalt, *Development of Transportation Systems in the United States* (Philadelphia, Pa.: Railway World Office, 1888), 51-53. The first book is a good general discussion of Indiana's transition from an undeveloped wilderness to a twentieth-century industrial giant. Shaw's book emphasizes the importance of canal systems as one of the most significant transportation innovations of the early nineteenth century. Ringwalt's book is dated but it offers an excellent comparison of the nineteenth-century viewpoint on canals and their worth versus the modern evaluations by Shaw and Gray.

[2] Carter Goodrich, ed. *Canals and American Economic Development* (New York: Columbia University Press, 1957). In Chapter 5 of this book, H. Jerome Cranmer provides a clear, concise explanation of his definition of the two types of canals -- exploitative and developmental.

[3] Logan Esarey, "Internal Improvements in Indiana," *Indiana Historical Society Publications* Volume 5, (Indianapolis, Ind.: Edward J. Hecker, 1912), 78; Paul Fatout, *Indiana Canals* (West Lafayette, Ind.: Purdue University Press, 1972), Chapter 1. Many citizens, in government service and private, held diametrically-opposed opinions on the government funding of internal improvements.

[4] George R. Taylor, *The Transportation Revolution, 1815-1860* Vol.IV (New York: Rinehart and Company, 1957), 18.

[5] Ibid., 19; Douglas Clanin, "Internal Improvements in National Politics, 1816-1830," *Transportation and the Early Nation* (Indianapolis, Ind.: Indiana Historical Society, 1982), 32-35.

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[6] Balthasar H. Meyer, *History of Transportation in the United States Before 1860* (Forge Village, Mass.: The Murray Printing Company, 1948), 183-193; Ringwalt, *Transportation Systems*, 45.

[7] Paul E. Johnson, *A Shopkeeper's Millennium* (New York: Hill and Wang, 1978), 18.

[8] Ibid., 19.

[9] Taylor, *Transportation Revolution*, 49.

[10] Taylor, *Transportation Revolution*, 52-55.

Chapter 2. The Dilemma

[1] Frese, ed., *American Economy 1815-1875*, 74.

[2] Ibid., 77; Meyer, *Transportation Before 1860*, 86-88.

[3] Fatout, *Indiana Canals*, 16.

[4] Ringwalt, *Transportation Systems*, 73-77.

[5] Esarey, "Internal Improvements", 83-86.

[6] Gray, "Canal Era in Indiana," 119.

[7] Fatout, *Indiana Canals*, 71-75; Gray, "Canal Era in Indiana," 113, 119.

[8] Fatout, *Indiana Canals*, 72-73; Gray, "Canal Era in Indiana," 116-118.

[9] Elbert Jay Benton, *The Wabash Trade Route* (Baltimore, Md.: Johns Hopkins Press, 1903), 60-61; "Jesse L. Williams' Report to the Board of Internal Improvements," *Documentary Journal* 1841. Original copies of the *Journal* are available at the Indiana State Library, 140 North Senate Avenue, Indianapolis, Indiana. Benton's account of the woes of the Wabash and Erie Canal from its inception to its demise is very detailed. The footnotes and reference material offer a wealth of information for the more than casual reader. When the Indiana General Assembly realized the immensity of the debt facing the state, it required Williams to report on the costs of various options open to them.

[10] Esarey, "Internal Improvements", 122-124.

[11] Ibid., 144-146.

[12] Ibid., 146; Lee Newcomer, "A History of the Indiana Internal Improvement Bonds," *Indiana Magazine of History*, 80 (March 1984): 110-113.

[13] Ross F. Lockridge, *The Story of Indiana* (Oklahoma City, Okla.: Harlow Publishing Company, 1956), 277; Rita Harlan, "The Central Canal in the City," (Master's Thesis, IUPUI, Indianapolis, Indiana, Spring 1996). On file at the IUPUI Library, 755 W. Michigan, Indianapolis, Indiana, 46202.

[14] Benton, *Wabash Trade Route*, 40-41; Esarey, "Internal Improvements," 152-153.

[15] *Illustrated and Historical Atlas of Indiana* (Chicago, Ill.: Baskins, Forester & Company, 1876), 236-238.

[16] Alvin F. Harlow, *Old Towpaths* (1926; reprint, Port Washington, N.Y.: Kennikat Press, Inc., 1964), 266-269.

[17] "Select Committee of the House of Representatives in the Case of Jesse L. Williams, Principal Engineer, January 4, 1836," *Documentary Journal*, 1836.

[18] Charles R. Poinsatte, *Fort Wayne During the Canal Era 1828-1855* (Indianapolis, Ind.: Indiana Historical Bureau, 1969), 235, 246.

[19] *Potawattimie and Miami Times*, 23 August 1829, 28 March 1830, and 10 April 1830; Frank Fetter, *History of Miami County, Indiana* (Chicago, Ill.: Brant and Fuller, 1887), 363-365. Pirogues are hollowed-out tree trunks used as canoes. All references from nineteenth century Indiana newspapers cited can be found in the Indiana State Library, Newspaper Section.

[20] *Illustrated Atlas*, 236-238.

[21] Lockridge, *The Story of Indiana*, 273.

[22] *Cass County Times*, 24 February 1832.

[23] John Warner, "Canals and Related Resources 1800-1875" (Indianapolis, Ind.: Division of Historic Preservation and Archaeology, 1993). Historic context on file at Division of Historic Preservation and Archaeology, Department of Natural Resources, 402 W. Washington Street, Indianapolis, Indiana 46202.

[24] Ibid., 39-41; Jon C. Teaford, "The State and Industrial Development: Public Power Development in the Old Northwest," *The Old Northwest*, (March 1975): 11-18.

[25] Benton, *Wabash Trade Route*, 59. In the primary and secondary material that I have read, I have been unable to determine who made the decision that allowed or sanctioned this method of constructing the canals in Indiana, one section at a time. Ultimately, this uncoordinated execution of a well-ordered plan created delays in the opening of stretches of the canal and doomed the Central Canal, except for a section between Broad Ripple and Indianapolis, to oblivion.

Chapter 3. The Benefits

[1] Goodrich, ed. *Canals*, 241. Chapter 5, written by Harvey H. Segal, deals in great detail with the economic effect canals had on lowering the price of transportation and the ultimate impact this had on the prices paid by consumers in the developing regions of the Midwest. Segal uses various cost/benefit models in developing his argument.

[2] Fatout, *Indiana Canals*, 39-41, 82.

[3] Benton, *Wabash Trade Route*, 48; *Illustrated Atlas*, 256.

[4] "Governor's Message to the General Assembly," *Documentary Journal*, 1838. Two problems plagued the canal land sales program throughout its lifetime: overestimation of the worth per acre by the decision makers and the lengthy period of time allowed for payment of the balance due.

[5] "Trustees Report, Statement No. 14," *Documentary Journal*, 1854-55.

[6] Harlow, *Old Towpaths*, 275; Newcomer, "Internal Improvement Bonds," 108. Scrip was used for many purposes, all of them detrimental to the financial health of the canal. By the mid-1840s, scrip was acceptable for payments on canal lands, for payment of other state debts, for tolls, and materials for constructing the canal.

[7] Logansport *Democratic Pharos*, "Cash Prices Current", 3 August 1844, 2 October 1844, and 23 April 1845; "Report to the Commissioners," *Documentary Journal*, 1842.

[8] "Population by Counties, Table II" and "Population of Civil Divisions Less Than Counties," Table III, *Ninth Census of the United States, 1870*. The numbers from the 1840 and 1850 census reflect the enumerations of Miami County in its entirety. The 1870 census lists Peru separately from other townships in the county for both 1850 and 1860. This allows closer examination of that location and eliminates the effect of county growth.

[9] Table II, *Ninth Census*, 1870.

[10] Table II, *Ninth Census*, 1870.

[11] Table III, *Ninth Census*, 1870.

[12] Fatout, *Indiana Canals*, 118, 149-153; Table III, *Ninth Census*, 1870.

[13] Goodrich, ed., *Canals*, 157-158.

[14] Robert Kingsbury, *An Atlas of Indiana* (Bloomington, Ind.: Indiana University Foundation, 1970), 30.

[15] Fatout, *Indiana Canals*, 56; Harlow, *Old Towpaths*, 267.

[16] Logansport *Canal Telegraph*, 12 April 1834; Fetter, *History of Miami County*, 365.

[17] Archives Section, Commission on Public Records, State of Indiana, 140 North Senate Avenue, Indianapolis, Indiana (hereinafter cited as ISA). Box A5838 - File/ Contracts and Agreements. These contracts have been organized by canal and section by one of the archivists. They contain a wealth of information on the amounts of labor that actually were expended on sections of the canal and cost factors for various canal structures.

[18]"Report of the Superintendent, East of Tippecanoe," *Documentary Journal*, 1842-1853.

[19] *Combination Atlas/Map of Cass County Indiana* (Chicago, Ill.: Kingman Bros., 1876), 11; Thomas B. Helm, *The History of Cass County* (Chicago, Ill.: Brant and Fuller, 1886), 286-289.

[20] "Resident Engineer's Report - Superintendent's Report," *Documentary Journal*, 1852-1854; ISA, Box A5838 - File/ Contracts and Agreements. This file contains contracts made by the respective superintendents with local contractors to repair or replace structures along the canal. Water mills, dams, locks, and bridges headed the list of those items most often repaired.

[21] Fatout, *Indiana Canals*, 57-58; Leslie C. Swanson, *Canals of Mid-America* (Moline, Ill.: New Editions Publishing, Inc., 1984), 17; Harry N. Scheiber, *Ohio Canal Era: A Case Study of Government and the Economy, 1820-1861* (Athens, Ohio: Ohio University Press, 1969), 190.

[22] H. W. Beckwith, *History of Fountain County* (Chicago, Ill.: H. H. Hill and N. Iddings, 1881), 174-175; Louis C. Hunter, *Steamboats on the Western Rivers* (New York: Octagon Books, 1969), 659.

[23] *Orders, Rules, Regulations and Rates of Toll* (Terre Haute, Ind.: Office of the Board of Trustees, 1847), 22-23.

[24] Ibid.

[25] Ibid.; Meyer, *Transportation Before 1860*, 189-192.

[26] Fetter, *Miami County*, 364.

[27] Logansport *Democratic Pharos*, 18 August 1839; Logansport 1840 *Canal Telegraph*; Peru *Gazette*, 5 October 1839, 13 June 1840, and 30 October 1841; *Illustrated Atlas*, 237.

[28] "Report of the State Auditor," *Documentary Journal*, 1841-42, 1846 and 1853-54. There are gaps in information for various counties throughout the 1840s and 1850s.

[29] "Report of the State Auditor," *Documentary Journal*, 1852, 1853, and 1854.

[30] "Report of the State Auditor," *Documentary Journal*, 1841-42, 1846, 1852, 1853, and 1854.

[31] "Report of the State Auditor," *Documentary Journal*, 1853 and 1854.

[32] Teaford, "Public Power Development," 14; "Report of the Board of Internal Improvements," *Documentary Journal*, 1837.

[33] Jane R. Nolan, "Grain Milling In Indiana: The Evolution of Milling Technology and the Impact on the Industry in Indiana, 1800-1910," (Master's Thesis, IUPUI, 1992), 57-60.

[34] "Superintendent Report, East of Tippecanoe," 1845 and "Report of the Engineer Appointed to Examine and Gauge Water Power on the Wabash and Erie Canal, 1846," *Documentary Journal*, 1846; Teaford, "Public Power Development," 17-19. A report by an engineer, John Cleveland, reenforced earlier beliefs that water power was an added benefit of the canal-building endeavor and that communities were deriving real worth from the canal. Teaford argues that the production of water or hydraulic power by the state was a major factor in the creation of manufacturing industries that would follow in the development process.

[35] *Potawattimie and Miami Times*, July, August, and November, 1831.

[36] Peru *Gazette*, 20 July 1838, 15 October 1838, and 27 November 1839.

[37] *Cass County Times*, 10 January 1831 and 13 December 1831. Logansport *Herald*, 7 August 1837, 12 April 1838, and 4 October 1838.

[38] Logansport *Herald*, 8 January 1840 and 2 December 1840; Logansport *Democratic Pharos*, 14 August 1844, 2 October 1844, and 30 April 1845; Logansport *Canal Telegraph*, 14 March 1840, and 19 June 1841.

[39] Johnson, *Shopkeeper's Millennium*, 22-25; Scheiber, *Ohio Canal Era*, 191. I could find no direct evidence linking available consumer goods in the Wabash River Valley communities and decreases in subsistence-level housekeeping activities, like making clothes or candles, but it seems reasonable that this occurred.

[40] Alfred D. Chandler, Jr., *The Visible Hand* (Cambridge, Mass.: Harvard University Press, 1977), 24.

[41] Charles Hadfield, *World Canals: Inland Navigation Past and Present* (New York: Facts on File Publications, 1986), 313. The historian Hadfield refers to is Ralph D. Gray, a noted author who has written extensively on the significance of canals in general and their importance to the history of Indiana in particular.

[42] Peru *Observer*, 3 August 1844; Logansport *Herald*, 19 September 1844; Logansport *Democratic Pharos*, 10 February 1844.

[43] Logansport *Canal Telegraph*, 26 June 1848.

[44] Logansport *Cass County Times*, 14 July 1835; Logansport *Democratic Pharos*, 7 May 1845 and 21 May 1845.

[45] Logansport *Canal Telegraph*, 1 March 1841 and 26 June 1848.

[46] Peru *Gazette*, 24 August 1839; Logansport *Democratic Pharos*, 7 February 1855.

[47] Ibid.

[48] "Census of Manufactures, Production by Counties," Table III. *Sixth Census of the United States*, 1840.

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[49] "Agricultural Census", Table VII and "Census of Manufactures," Table IV. *Eighth Census of the United States*, 1860.

[50]"Report of the Superintendent, East of Tippecanoe", *Documentary Journal*, 1845, 1846, 1847, and 1852.

[51] "Report of the Superintendent, East of Tippecanoe, *Documentary Journal*, 1854.

[52] Peru *Gazette*, 20 July 1839.

[53]"Report of the Superintendent, East of Tippecanoe," *Documentary Journal*, 1847; Dwight W. Hoover, *A Pictorial History of Indiana*, (Bloomington, Ind.: Indiana University Press, 1980), 71.

[54] Charles O. Paullin, *Atlas of the Historical Geography of the United States* (Washington, D.C.: Carnegie Institute and The American Geographical Society, 1932), Plates 138 A, B, and C.

[55] Victor M. Bogle, "Railroad Building In Indiana, 1850-1855," *Indiana Magazine of History* 58 (1962): 226.

Chapter 4 Conclusion

[1] Hunter, *Steamboats*, 39; Meyer, *Transportation Before 1860*, 61, 87.

[2] Goodrich, ed. *Canals*, 222-223.

[3] Peru *Herald*, 1845-1847.

[4] Logansport *Herald*, 1837-1839.

[5] "Internal Improvements in Indiana," *Indiana Magazine of History* III (March 1907): 175.

[6] Teaford, "Public Power Development," 22.

[7] Bogle, "Railroad Building," 215.

[8] Goodrich, ed. *Canals*, 245.

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Logansport *Cass County Times*, 1832, Indiana State Library, Newspaper Division, 140 N. Senate Avenue, Indianapolis, Indiana.

Logansport *Democratic Pharos*, 1842, 1845, 1846, and 1855, Indiana State Library, Newspaper Division, 140 N. Senate Avenue, Indianapolis, Indiana.

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1963-1989 — Active service in the United States Army.

INTERNSHIPS:

August, 1993 to May, 1994 — **Teaching Assistant, Department of History IUPUI.** Assisted primary instructor in survey level American history course. Led discussion sessions, graded exams, counseled and tutored students, and prepared classroom visual aids.

August, 1992 to May, 1993 — **Internship at the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology.** Conducted research on the nineteenth-century canal system in Indiana and wrote a historical context, *Canals and Related Resources 1800 - 1875*, based on that research.

August 1991 to May, 1992 — **Curatorial Intern, State of Indiana Museum.** Curatorial assistant for the ceramic, plated metals, and glassware collections. Conducted research needed to identify and date artifacts in the three collections; marked and catalogued new accessions; verified inventory information; and rotated several interpretive displays.

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